

CLAIMS

I claim:

1 1. An hand-operated animal waste scooper, comprising:
2 a control assembly;
3 an extension structure attached to said control assembly;
4 a support structure having a plurality of bag clips, said
5 support structure depending from said extension structure;
6 a linkage assembly connected through said extension
7 structure to said control assembly;
8 a pair of generally scoop-shaped opposed jaws attached to
9 said linkage assembly, each of said jaws having an upper
10 containment portion, a lower grasping portion, and opposed
11 sidewalls; and
12 a plurality of springs attached to said linkage assembly
13 and between said jaws;
14 whereby upon activation of said control assembly, said
15 linkage assembly acts upon said pair of jaws, opening said jaws
16 and upon installing an inverted plastic bag over said jaws and
17 said support structure and secured to said bag clips, said pair
18 of jaws covered by the plastic bag may be lowered over the
19 animal waste, and upon deactivation of said control assembly,
20 the bag supported by said jaws may be closed around the animal
21 waste by action of said springs on said linkage assembly between

22 said jaws, encasing the animal waste with said plastic bag and
23 upon said bag being removed from said bag clips and pulled
24 downward reverting the bag to its normal disposition, upon
25 activation of said control assembly, said jaws may be opened,
26 allowing said reversed bag containing the animal waste to be
27 removed from the jaws of said animal waste scooper and disposed
28 of without the hands of the operator or any part of the waste
29 scooper from touching the animal waste.

1 2. The hand-operated grasping device of claim 1, wherein
2 said control assembly comprises:

3 a handle;

4 a trigger attached between said linkage assembly and said
5 handle;

6 said trigger being operable between an unpulled state
7 wherein said linkage assembly is in an inactivated position and
8 said jaws are in a closed position and a pulled state against
9 spring pressure from said plurality of springs wherein said
10 linkage assembly is in an activated position and said jaws are
11 in an open position;

12 a latch attached between said handle and said trigger;

13 said latch being movable between a unsecured position when
14 said trigger is in an unpulled state and a secured position when
15 said trigger is in a pulled state, thereby holding said trigger
16 against said spring pressure.

3. The hand-operated grasping device of claim 2, wherein said extension structure comprises a hollow pole extending between said handle and said support structure.

4. The hand-operated grasping device of claim 2, wherein said support structure is in the general form of an elongated bridge having an upper cross portion and a depending side portion from each end thereof, at least one of said plurality of said plurality of clips being mounted on each depending side thereof.

5. The hand-operated grasping device of claim 4, wherein said linkage assembly comprises:

upper linking means;

an actuator extending between said trigger and said linking means;

a hinge pin extending between said depending side portions of said support structure; and

a pair of opposed bell cranks, each said bell crank having an upper arm and a lower arm having respective free ends and rigidly attached at about a right angle forming a corner thereof, each said corner being pivotally mounted on said hinge pin, said upper arm extending upwardly from said hinge said hinge pin, said lower arm extending outwardly from said hinge pin;

15 said upper linking means being attached to and extending
16 between respective said free ends of said bell crank upper arm;
17 said upper linking means being attached at its central
18 portion to said actuator;
19 a pair of guide rods extending between respective said
20 opposing sidewalls of said opposed jaws, each said lower arm
21 being pivotally connected at about its free end with a central
22 portion of a said corresponding guide rod, at least one of said
23 plurality of springs being connected between said guide rods;
24 whereby, upon the pulling of said trigger, said actuator
25 pulls the central portion of said linking means upward relative
26 to said hinge pin, thereby pulling said free ends of said upper
27 arms of said bell cranks inward toward one another as they
28 rotate on said hinge pin, said free ends of said lower arms of
29 said bell cranks rotating outward, thus moving said guide rods
30 outward against the pull of said at least one spring and thereby
31 opening said opposed jaws attached thereto; and
32 whereby, upon releasing of said trigger, said at least one
33 spring pulls said guide rods together, thereby closing said
34 opposed jaws.

1 6. The hand-operated animal waste scooper of claim 5,
2 wherein said sidewalls of said opposed jaws overlap and said
3 jaws are pivotally attached at the upper ends of their
4 respective sidewalls to said hinge pin.

1 7. The hand-operated animal waste scooper of claim 5,
2 wherein said depending sides of said support structure having
3 guide slots receiving the opposing ends of said guide rods, said
4 guide slots being dimensioned and oriented so as to guide and
5 limit the travel of guide rods through their inward and outward
6 movement corresponding to the closing and opening of said
7 opposed jaws.

1 8. The hand-operated animal waste scooper of claim 5,
2 further comprising a linkage shield having a horizontal plate
3 suspended from spaced hangers, said spaced hangers being mounted
4 on said hinge pin between said scoop opposed sidewalls, said
5 linkage shield forming an horizontal barrier to avoid said bag
6 or its contents from entering said linkage.

1 9. The hand-operated animal waste scooper of claim 5, said
2 upper linking means comprising a pair of upper links pivotally
3 connected at said actuator at a common end and pivotally
4 attached at their opposed ends to said upper free ends of said
5 opposed bell cranks, respectively;

6 whereby, upon pulling of said trigger and said attached
7 actuator, said upper links extend upward at their central common
8 ends, thus pulling said free ends of said bell cranks inward
9 toward each other and thereby opening said opposed jaws.

1 10. The hand-operated animal waste scooper of claim 5,
2 wherein said springs are mounted between said guide rods at
3 points adjacent the inner side of said scoop sidewalls.

1 11. The hand-operated animal waste scooper of claim 5, in
2 said handle having an upper horizontal grip and opposed side
3 rails at each end thereof, having a vertical portion extending
4 vertically downward and an angled portion extending inward,
5 forming a generally D-shaped opening, said side rails joining at
6 said extension structure at its upper end, said vertically
7 extending portion of said side rails each having an inner facing
8 guide rib extending therein.

1 12. The hand-operated animal waste scooper of claim 11,
2 wherein said trigger is generally D-shaped and fits within the
3 lower portion of said handle D-shaped opening, said trigger
4 having a horizontal grip and opposed side rails at each end
5 thereof, having a vertical portion extending vertically downward
6 and an angled portion extending inward, said side rails joining
7 at the upper end of said actuator and connected thereto, said
8 vertical side rail portions having slots therein slidably
9 engaging said side rails and guide rib of said handle.

1 13. The hand-operated animal waste scooper of claim 12,
2 wherein said handle grip is of a half-round shape with the flat
3 side oriented downward, and said trigger grip is of a half-round
4 shape with the flat side oriented upward and disposed such that,

5 upon pulling said trigger grip upward, the mutual flat sides of
6 said handle grip and said trigger grip come together.

1 14. The hand-operated animal waste scooper of claim 14,
2 wherein said latch comprises a hook installed on said trigger
3 grip and an eyelet installed on said handle grip so located that
4 said hook can engage said eyelet when said trigger grip is
5 pulled against said handle grip.

1 15. The hand-operated animal waste scooper of claim 5,
2 wherein said lower grasping portions of said opposed jaws are
3 formed by open frames.